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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/621,881  | 07/17/2003  | Deuk-Su Lee          | 250806-1300         | 8404             |
| 24504   | 7590        | 03/23/2006           | EXAMINER            |                  |
| THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP<br>100 GALLERIA PARKWAY, NW<br>STE 1750<br>ATLANTA, GA 30339-5948 |             |                      | DUONG, TAI V        |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2871                |                  |

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 10/621,881             |  | LEE ET AL.          |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | Tai Duong              |  | 2871                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 and 30-38 is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 10, 20-24, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119.**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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Upon reconsideration, the election of species requirement of the last Office Action is withdrawn.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yee et al (US 2002/0171782)

Note Figs. 1, 3, 4C and 5 which identically disclose a liquid crystal display (LCD) device in each pixel area, the pixel electrode layer 50 being formed between a first data bus line 44 and a second data bus line 44; and wherein, in each pixel area, a first space (b, b1) between the first data bus line 44 and the periphery of the pixel electrode layer 50 is different from a second space(a, a1) between the second data bus line 44 and the periphery of the pixel electrode layer 50 (paragraphs 0006-0016). It is noted that the labels "first" and "second" are arbitrary.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 9, 10, 20-24, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figs. 1-3 (APA Figs. 1-3) in view of Yee et al (US 2002/0171782).

APA Figs. 1-3 disclose a <sup>LCD</sup>~~LED~~ device similar to that of the instant claims except for the difference that in each pixel area, a first space between the first data bus line and the periphery of the pixel electrode layer is different from a second space between the second data bus line and the periphery of the pixel electrode layer. See discussions of the recited features of the claims on pages 2-5 of the instant specification. It is noted that the labels "first" and "second" are arbitrary. Yee et al disclose in Figs. 4C and 5 in each pixel area, a first space (b, b1) between the first data bus line 44 and the periphery of the pixel electrode layer 50 being different from a second space(a, a1) between the second data bus line 44 and the periphery of the pixel electrode layer 50 (paragraphs 0015-0016). Thus, it would have been obvious to a person of ordinary skill in the art in view of Yee et al to employ in the LCD device of APA Figs. 1-3 a first space between the first data bus line and the periphery of the pixel electrode layer being different from a second space between the second data bus line and the periphery of the pixel electrode layer for obtaining a LCD device with low processing time and good production yield, as compared with the case where the first space is equal to the second space (Yee, paragraph 0016, last four lines).

Claims 3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA Figs. 1-3) in view of Yee et al as applied to claims 1 and 20 above, and further in view of Song (US 2001/004603).

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Claims 3 and 22 additionally recite the first space being 4~5  $\mu\text{m}$  and the second space being 2~3  $\mu\text{m}$ . Song discloses that it was known to form spaces in the range of 2 – 6  $\mu\text{m}$  (paragraph 0015). Thus, it would have been obvious to a person of ordinary skill in the art in view of Song to employ in the LCD device cited in the above rejection of claims 1 and 20 the first space being 4~5  $\mu\text{m}$  and the second space being 2~3  $\mu\text{m}$  for obtaining a LCD device with low processing time, good production yield, and acceptable display contrast (as compared with the case where there is a large difference between the first and second spaces, i.e. light leaking out at the large space).

Claims 6-8 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6 and 25 are allowed because none of the prior art discloses or suggests the LCD having structure as recited in claim 4 or 23 in combination with the feature "the first overlapping width is different from the second overlapping width". Claims 7, 8, 26 and 27 are also allowed since they depend on claims 6 and 25.

Claims 11-19 and 30-38 are allowed. Claims 11 and 30 are allowed because none of the prior art discloses or suggests the LCD having the features "a plurality of light-shielding layers formed in the plurality of pixel areas overlying the second substrate, respectively; and an opaque layer formed overlying the first substrate; wherein, in each pixel area, the pixel electrode layer is formed between a first data bus line and a second data bus line, in which a first distance is kept between the first data bus line and the periphery of the pixel electrode layer, and a second space is kept

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between the second data bus line and the periphery of the pixel electrode layer; wherein, in each pixel area, a first light-shielding layer is formed between the first data bus line and the periphery of the pixel electrode layer, and a second light-shielding layer is formed between the second data bus line and the periphery of the pixel electrode layer; wherein, the opaque layer overlaps the first data bus line, the second data bus line, the first space and the second space" *in combination* with the feature "wherein, in each pixel area, a first overlapping width between the opaque layer and the first light-shielding layer is different from a second overlapping width between the opaque layer and the second light-shielding layer". Claims 12-19 and 31-38 are also allowed since they depend on claims 11 and 30.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number (571) 272-2291.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
TOANTON  
PRIMARY EXAMINER

  
TVD

03/06